

AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION

On page 2, line 19, please replace the original paragraph with the following amended paragraph:

-- [0005] Known natural spider thread proteins include spidroin1 (MaSpI), spidroin2 (MaSpII) (Non-patent document 4), ADF-3, ADF-4 and the like. The characteristic sequences of these spider thread proteins comprise amino acids consisting mainly of alanine, serine and glycine, while also including considerable amounts of other amino acids such as glutamine, tyrosine, leucine and valine. The protein spidroin1 have sequence repeats, where the repeating units have the maximum length of 34 amino acids and are not highly conserved. The repeating unit comprises two different segments: (i) a 10-amino acid segment composed mostly of a 5-7 residue polyalanine sequence, and (ii) a 24-amino acid segment which is conserved in the sequence but which lacks 3 amino acids multiple times among most of the repeating units. The latter sequence consists mainly of a Gly-Xaa-Gly motif, where Xaa represents alanine, tyrosine, leucine or glutamine. The protein spidroin2 also has a repeated sequence, where the repeating unit has a maximum length of 51 amino acids and, likewise, is not highly conserved. This repeating unit comprises two different segments: (i) a segment composed mostly of a 6-9 residue polyalanine sequence, and (ii) a segment containing the amino acid sequence GlyGlyTyrGlyProGly (SEQ ID NO: 13) or GlyProGlyGlnGln (SEQ ID NO: 14).--

On page 47, line 19, please replace the original paragraph with the following amended paragraph:

--[0137] Immunoelectron microscopy was carried out using cocoons produced by a transgenic silkworm having the HP·DP8·HC gene transferred therein and by a non-transgenic silkworm as samples, and using specific peptide antibody (DP antibody) having a sufficient antibody titer for the oligopeptide CGAGQGGYGGLGSQAGR^G (SEQ ID NO: 11). Each sample was fixed for one hour at room temperature using 2% glutaraldehyde-0.1% cacodylate buffer, and then the epoxy resin EPON812 was used for polymerization and embedding at 60°C for 48 hours. Ultrathin slices were prepared with an ultramicrotome. Blocking was performed at room temperature for 30 minutes using 1% BSA/PBS + 1.5% goat serum. DP antibody diluted 5000-fold was used as the primary antibody, for antibody treatment overnight at 4°C. Rinsing was then carried out three times at room temperature for 10 minutes using 1% BSA/PBS. Anti-rabbit IgG Goat-Poly 10 nm (product of British Biocell International, Ltd.) was used as the secondary antibody for treatment at room temperature for one hour. Rinsing was then carried out three times at room temperature for 10 minutes using 1% BSA/PBS. Double staining was performed at room temperature for 5 minutes each with uranyl acetate and lead, prior to electron microscope observation. Fig. 6 shows the results using a longitudinal slice of silk thread produced by non-transgenic silkworm. The presence of spider thread protein in the silk thread fibroin layer and sericin layer could not be confirmed. Fig. 7 shows the results using a longitudinal slice of silk thread produced by a transgenic silkworm having the HP·DP8·HC gene transferred therein. In the longitudinal slice of silk thread produced by a transgenic silkworm having the HP·DP8·HC gene transferred therein, the presence of dispersed spider thread protein can be seen as black dots in the silk thread fibroin layer. No partially local existence is observed.--